EXHIBIT H

PTO/SB/0:
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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	**T3653-9285US01**
First Named Inventor	TZANNES, MARCOS C.
Title	**SHARING MEMORY AND PROCESSING RESOURCES IN DSL SYSTEMS**
Express Mail Label No.	

ADDRESS TO:
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPLICATION ELEMENTS

See *MPEP chapter 600* concerning utility patent application contents.

1. ☒ **Fee Transmittal Form** (e.g., PTO/SB/17)
   (Submit an original and a duplicate for fee processing)

2. ☐ **Applicant claims small entity status**
   See 37 CFR 1.27

3. ☒ **Specification**   *[Total Pages 30]*
   Both the claims and abstract must start on a new page
   (For information on the preferred arrangement, see MPEP 608.01(a))

4. ☒ **Drawing(s)** *(35 U.S.C. 113)*   *[Total Sheets 3]*

5. **Oath or Declaration**   *[Total Sheets _____]*
   a. ☐ Newly executed (original or copy)
   b. ☐ Unexecuted (original or copy)
   c. ☐ A copy from a prior application (37 CFR 1.63(d))
      (for continuation/divisional with Box 18 completed)
      i. ☐ DELETION OF INVENTOR(S)
         Signed statement attached deleting inventor(s)
         named in the prior application, see 37 CFR
         1.63(d)(2) and 1.33(b)

6. ☒ **Application Data Sheet.** See 37 CFR 1.76

7. ☐ **CD-ROM or CD-R** in duplicate, large table or Computer Program (Appendix)
   ☐ Landscape Table on CD

8. **Nucleotide and/or Amino Acid Sequence Submission**
   (if applicable, items a.-c. are required)
   a. ☐ Computer Readable Form (CRF)
   b.   Specification Sequence Listing on:
      i ☐ CD-ROM or CD-R (2 copies; or
      ii. ☐ Paper
   c. ☐ Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

9. ☐ **Assignment Papers** (cover sheet & document(s))
   Name of Assignee _____

10. ☐ **37 CFR 3.73(b) Statement**   ☐ **Power of Attorney**
    (when there is an assignee)

11. ☐ **English Translation Document** *(if applicable)*

12. ☐ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
    ☐ Copies of citations enclosed

13. ☐ **Preliminary Amendment**

14. ☒ **Return Receipt Postcard** (MPEP 503)
    (Should be specifically itemized)

15. ☐ **Certified Copy of Priority Document(s)**
    (if foreign priority is claimed)

16. ☐ **Nonpublication Request** under 35 U.S.C. 122(b)(2)(B)(i).
    Applicant must attach form PTO/SB/35 or equivalent

17. ☐ **Other:** _____

18. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:*
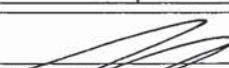   ☐ Continuation   ☐ Divisional   ☐ Continuation-in-part (CIP)   of prior application No.: 60/618,269

   Prior application information: Examiner _____   Art Unit: _____

19. CORRESPONDENCE ADDRESS

☒ The address associated with Customer Number: *000181*   or   ☐ *Correspondence address below*

Name		
City	State	Zip Code
Country	Telephone	Fax

Signature	Date	October 11, 2005
Name (Print/Type) Jason H. Vick	Registration No. (Attorney/Agent)	45,285

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO t an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of C P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O.** 1450, Alexandria, VA 22313-1450.

PTO/SB/17 (12-04v2)
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FEE TRANSMITTAL
For FY 2005

Effective on 12/8/2004
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818)

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

	Complete if Known
Application Number	
Filing Date	
First Named Inventor	TZANNES, MARCOS C.
Examiner Name	
Art Unit	
Attorney Docket No.	T3653-9285US01

TOTAL AMOUNT OF PAYMENT	$2,650.00

METHOD OF PAYMENT *(check all that apply)*

☒ Check   ☐ Credit Card   ☐ Money Order   ☐ None   ☐ Other (please identify):_____

☒ Deposit Account   Deposit Account Number: 50-1165   Deposit Account Name: Miles & Stockbridge P.C.

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below   ☐ Charge fee(s) indicated below, **except for the filing fee**

☒ Charge any additional fee(s) or underpayments of fee(s)   ☒ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES Fee ($)	FILING FEES Small Entity Fee ($)	SEARCH FEES Fee ($)	SEARCH FEES Small Entity Fee ($)	EXAMINATION FEES Fee ($)	EXAMINATION FEES Small Entity Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	**$1,000.00**
Design	200	100	100	50	130	65	_____
Plant	200	100	300	150	160	80	_____
Reissue	300	150	500	250	600	300	_____
Provisional	200	100	0	0	0	0	_____

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)
45 - 20 or HP =	25	x 50.00	= **$1250.00**

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)
5 - 3 or HP =	2	x 200.00	= **$400.00**

HP = highest number of independent claims paid for, if greater than 3.

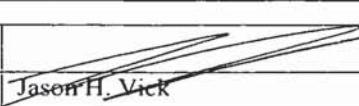**Multiple Dependent Claims**

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
_____ - 100 =	_____ / 50 =	_____ (round up to a whole number) x	_____	= _____

4. OTHER FEE(S)

Fee Paid ($)

Non-English Specification, $130 fee (no small entity discount) _____

Other (e.g., late filing surcharge): _____ _____

SUBMITTED BY			Complete *(if applicable)*	
Signature	*[signature]*	Registration No. (Attorney/Agent) 45,285	Telephone	(703) 903-9000
Name *(Print/Type)*	Jason H. Vick		Date	October 11, 2005

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Claims:

1.   A method for sharing resources in a transceiver comprising:

allocating a first portion of shared memory to a first latency path and allocating a second portion of the shared memory to a second latency path.

2.   The method of claim 1, wherein the first latency path includes an interleaver and the second latency path includes an interleaver.

3.   The method of claim 1, wherein the first latency path includes an interleaver and the second latency path includes a deinterleaver.

4.   The method of claim 1, wherein the first latency path includes a deinterleaver and the second latency path includes a deinterleaver.

5.   The method of claim 1, further comprising transmitting to another transceiver information that is used to determine a maximum amount of shared memory that can be allocated.

6.   The method of claim 1, further comprising receiving from another transceiver information that is used to determine a maximum amount of shared memory that can be allocated.

7.   The method of claim 1, further comprising allocating a shared processing module to a plurality of coding and/or decoding modules.

8.   The method of claim 1, wherein the allocating of at least one portion of the shared memory is based on one or more communication parameters.

9.   The method of claim 8, wherein at least one of the communication parameters is a data rate, a latency, an INP value or a bit error rate (BER).

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Attorney Docket No. T3653-9285US01

10.   A transceiver comprising:

a first portion of shared memory that is allocated to a first latency path; and

a second portion of the shared memory that is allocated to a second latency path.

11.   The transceiver of claim 10, further comprising:

an allocation module designed to allocate the shared memory based on one or more communication parameters.

12.   The transceiver of claim 11, wherein at least one of the communication parameters is a data rate, a latency, an INP value or a Bit Error Rate (BER).

13.   The transceiver of claim 10, wherein the first latency path includes an interleaver and the second latency path includes an interleaver.

14.   The transceiver of claim 10, wherein the first latency path includes an interleaver and the second latency path includes a deinterleaver.

15.   The transceiver of claim 10, wherein the first latency path includes a deinterleaver and the second latency path includes a deinterleaver.

16.   The transceiver of claim 10, further comprising a shared resource management module designed to determine information that is transmitted to another transceiver, wherein the information is used to determine a maximum amount of shared memory that can be allocated.

17.   The transceiver of claim 10, further comprising a shared resource management module designed to utilize information that is received from another transceiver, wherein the information is used to determine a maximum amount of shared memory that can be allocated.

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18.   The transceiver of claim 10, further comprising a shared processing module designed to provide processing resources to a plurality of coding and/or decoding modules.

19.   A system for sharing resources in a transceiver comprising:

means for allocating a first portion of shared memory to a first latency path and means for allocating a second portion of the shared memory to a second latency path.

20.   The system of claim 19, wherein the first latency path includes an interleaver and the second latency path includes an interleaver.

21.   The system of claim 19, wherein the first latency path includes an interleaver and the second latency path includes a deinterleaver.

22.   The system of claim 19, wherein the first latency path includes a deinterleaver and the second latency path includes a deinterleaver.

23.   The system of claim 19, further comprising means for transmitting to another transceiver information that is used to determine a maximum amount of shared memory that can be allocated.

24.   The system of claim 19, further comprising means for receiving from another transceiver information that is used to determine a maximum amount of shared memory that can be allocated.

25.   The system of claim 19, further comprising means for allocating a shared processing module to a plurality of coding and/or decoding modules.

26.   The system of claim 19, wherein the allocating of at least one portion

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of the shared memory is based on one or more communication parameters.

27.   The system of claim 26, wherein at least one of the communication parameters is a data rate, a latency, an INP value or a bit error rate (BER).

28.   A protocol for sharing resources in a transceiver comprising:

allocating a first portion of shared memory to a first latency path and allocating a second portion of the shared memory to a second latency path.

29.   The protocol of claim 28, wherein the first latency path includes an interleaver and the second latency path includes an interleaver.

30.   The protocol of claim 28, wherein the first latency path includes an interleaver and the second latency path includes a deinterleaver.

31.   The protocol of claim 28, wherein the first latency path includes a deinterleaver and the second latency path includes a deinterleaver.

32.   The protocol of claim 28, further comprising transmitting to another transceiver information that is used to determine a maximum amount of shared memory that can be allocated.

33.   The protocol of claim 28, further comprising receiving from another transceiver information that is used to determine a maximum amount of shared memory that can be allocated.

34.   The protocol of claim 28, further comprising allocating a shared processing module to a plurality of coding and/or decoding modules.

35.   The protocol of claim 28, wherein the allocating of at least one portion of the shared memory is based on one or more communication parameters.

#9282323

36.   The protocol of claim 35, wherein at least one of the communication parameters is a data rate, a latency, an INP value or a bit error rate (BER).

37.   An information storage media having stored thereon information that when executed allows sharing of resources in a transceiver comprising:

information that allocates a first portion of shared memory to a first latency path and information that allocates a second portion of the shared memory to a second latency path.

38.   The media of claim 37, wherein the first latency path includes an interleaver and the second latency path includes an interleaver.

39.   The media of claim 37, wherein the first latency path includes an interleaver and the second latency path includes a deinterleaver.

40.   The media of claim 37, wherein the first latency path includes a deinterleaver and the second latency path includes a deinterleaver.

41.   The media of claim 37, further comprising information that transmits to another transceiver information that is used to determine a maximum amount of shared memory that can be allocated.

42.   The media of claim 37, further comprising information that receives from another transceiver information that is used to determine a maximum amount of shared memory that can be allocated.

43.   The media of claim 37, further comprising information that allocates a shared processing module to a plurality of coding and/or decoding modules.

44.   The media of claim 37, wherein the allocating of at least one portion of

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the shared memory is based on one or more communication parameters.

45.   The media of claim 44, wherein at least one of the communication parameters is a data rate, a latency, an INP value or a bit error rate (BER).

#9282323

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/246,163	10/11/2005	Marcos C. Tzannes	5550-54	5478

62574 7590 12/09/2009 Jason H. Vick Sheridan Ross, PC Suite # 1200 1560 Broadway Denver, CO 80202	EXAMINER PFIZENMAYER, MARK C

ART UNIT	PAPER NUMBER
2447	

NOTIFICATION DATE	DELIVERY MODE
12/09/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jvick@sheridanross.com

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	11/246,163	TZANNES ET AL.
	Examiner	Art Unit	
	MARK PFIZENMAYER	2447	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>21 August 2009</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-45</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-45</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>9/22/2009</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Application/Control Number: 11/246,163   Page 2
Art Unit: 2447

DETAILED ACTION

1.   Claims 19 and 28 were amended in the amendment filed on 8/21/2009. The

claims 1-45 are pending.

Response to Arguments

2.   Applicant's arguments filed 8/21/2009 have been fully considered but they are

not persuasive.

A.   Applicant argues the cited prior art does not teach how the same memory

can be used for simultaneously receiving of data and transmitting data.

        In response to applicant's argument that the references fail to show certain

features of applicant's invention, it is noted that the features upon which applicant relies

(i.e., the same memory being used for simultaneously receiving of data and transmitting

data) are not recited in the rejected claim(s). Although the claims are interpreted in light

of the specification, limitations from the specification are not read into the claims. See

In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Specification

3.   The disclosure is objected to because of the following informalities:

        • The specification fails to provide proper antecedent basis for "an

            information storage media" in claim 37. See 37 CFR 1.75(d)(1) and MPEP

            § 608.01(o). Appropriate correction is required.

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

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Art Unit: 2447

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

5.   Claims 19-36 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

With respect to claim 19, the claim lacks the necessary physical articles or

objects to constitute a machine or a manufacture within the meaning of 35 U.S.C. 101.

They are clearly not a series of steps or acts to be a process nor are they a combination

of chemical compounds to be a composition of matter. As such, they fail to fall within a

statutory category. They are, at best, functional descriptive material per se. Claims 20-

27 are likewise rejected.

With respect to claim 28, the claim lacks the necessary physical articles or

objects to constitute a machine or a manufacture within the meaning of 35 U.S.C. 101.

They are clearly not a series of steps or acts to be a process nor are they a combination

of chemical compounds to be a composition of matter. As such, they fail to fall within a

statutory category. They are, at best, functional descriptive material per se. MPEP

§2106.01. Claims 29- 36 are likewise rejected.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section

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Art Unit: 2447

> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7.   Claims 1-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Fadavi-

Ardekani (U.S. Patent No. 6,707,822).

With respect to claim 1, Fadavi-Ardekani teaches a method for sharing resources

in a transceiver (i.e., the IDIM of the transceiver can support different number of

sessions; lines 3-5 in column 7) comprising: allocating a first portion of shared memory

to a first latency path (i.e., 16 Kbytes is allocated for interleave, lines 25-30 in column 7)

and allocating a second portion of the shared memory to a second latency path (i.e., 4

Kbytes is allocated for deinterleave, lines 25-30 in column 7).

With respect to claim 2, Fadavi-Ardekani further teaches wherein the first latency

path includes an interleaver and the second latency path includes an interleaver (i.e.,

the size of the IDIM and the interleave depth may be modified to allocate multiple

portions, wherein each portion or session may be used for interleave or deinterleave.

For example, a new interleave session may be added to an existing interleave session;

lines 3-5 and 30-33 in column 7).

With respect to claim 3, Fadavi-Ardekani further teaches wherein the first latency

path includes an interleaver and the second latency path includes a deinterleaver (i.e.,

the size of the IDIM and the interleave depth may be modified to allocate multiple

portions, wherein each portion or session may be used for interleave or deinterleave;

lines 3-5 and 30-33 in column 7).

With respect to claim 4, Fadavi-Ardekani further teaches wherein the first latency

path includes a deinterleaver and the second latency path includes a deinterleaver (i.e.,

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the size of the IDIM and the interleave depth may be modified to allocate multiple

portions, wherein each portion or session may be used for interleave or deinterleave.

For example, a new deinterleave session may be added to an existing deinterleave

session; lines 3-5 and 30-33 in column 7).

With respect to claim 5, Fadavi-Ardekani further teaches transmitting to another

transceiver information that is used to determine a maximum amount of shared memory

that can be allocated (i.e., the ADSL transceiver provides data to (and receives data

from) several channels with the data grouped into frames that include both payload data

bytes and overhead data bytes, wherein overhead data bytes may contain information

that is used to determine a maximum amount of shared memory that can be allocated,

lines 20-25 in column 2).

With respect to claim 6, Fadavi-Ardekani further teaches receiving from another

transceiver information that is used to determine a maximum amount of shared memory

that can be allocated (i.e., the ADSL transceiver provides data to (and receives data

from) several channels with the data grouped into frames that include both payload data

bytes and overhead data bytes, wherein overhead data bytes may contain information

that is used to determine a maximum amount of shared memory that can be allocated,

lines 20-25 in column 2).

With respect to claim 7, Fadavi-Ardekani further teaches allocating a shared

processing module to a plurality of coding and/or decoding modules (i.e., the FCI

supports multiple ADSL sessions and performs various tasks on payload data including

framing/de-framing, cyclic redundancy check generation/checking,

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scrambling/descrambling, Reed-Solomon encoding/decoding, and interleaving/de-

interleaving, lines 11-17 in column 6).

      With respect to claim 8, Fadavi-Ardekani further teaches wherein the allocating of

at least one portion of the shared memory is based on one or more communication

parameters (i.e., the number of sessions supported is based on the size of the IDIM and

the interleave depth, lines 3-5 and 30-33 in column 7).

      With respect to claim 9, Fadavi-Ardekani further teaches wherein at least one of

the communication parameters is a data rate, a latency, an INP value or a bit error rate

(i.e., interleave depth, wherein the interleave depth is directly proportional to latency,

lines 3-5 in column 7).

      With respect to claim 10, Fadavi-Ardekani teaches a transceiver comprising: a

first portion of shared memory that is allocated to a first latency path (i.e., 16 Kbytes is

allocated for interleave, lines 25-30 in column 7); and a second portion of the shared

memory that is allocated to a second latency path (i.e., 4 Kbytes is allocated for

deinterleave, lines 25-30 in column 7).

      With respect to claim 11, Fadavi-Ardekani further teaches further comprising: an

allocation module designed to allocate the shared memory based on one or more

communication parameters (i.e., the number of sessions supported is based on the size

of the IDIM and the interleave depth, lines 3-5 and 30-33 in column 7).

      With respect to claim 12, Fadavi-Ardekani further teaches wherein at least one of

the communication parameters is a data rate, a latency, an INP value or a Bit Error Rate

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(i.e., interleave depth, wherein the interleave depth is directly proportional to latency,

lines 3-5 in column 7).

     With respect to claim 13, Fadavi-Ardekani further teaches wherein the first

latency path includes an interleaver and the second latency path includes an interleaver

(i.e., the size of the IDIM and the interleave depth may be modified to allocate multiple

portions, wherein each portion or session may be used for interleave or deinterleave.

For example, a new interleave session may be added to an existing interleave session;

lines 3-5 and 30-33 in column 7).

     With respect to claim 14, Fadavi-Ardekani further teaches wherein the first

latency path includes an interleaver and the second latency path includes a

deinterleaver (i.e., the size of the IDIM and the interleave depth may be modified to

allocate multiple portions, wherein each portion or session may be used for interleave or

deinterleave; lines 3-5 and 30-33 in column 7).

     With respect to claim 15, Fadavi-Ardekani further teaches wherein the first

latency path includes a deinterleaver and the second latency path includes a

deinterleaver (i.e., the size of the IDIM and the interleave depth may be modified to

allocate multiple portions, wherein each portion or session may be used for interleave or

deinterleave. For example, a new deinterleave session may be added to an existing

deinterleave session; lines 3-5 and 30-33 in column 7).

     With respect to claim 16, Fadavi-Ardekani further teaches further comprising a

shared resource management module designed to determine information that is

transmitted to another transceiver, wherein the information is used to determine a

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maximum amount of shared memory that can be allocated (i.e., the ADSL transceiver

provides data to (and receives data from) several channels with the data grouped into

frames that include both payload data bytes and overhead data bytes, wherein

overhead data bytes may contain information that is used to determine a maximum

amount of shared memory that can be allocated, lines 20-25 in column 2).

     With respect to claim 17, Fadavi-Ardekani further teaches further comprising a

shared resource management module designed to utilize information that is received

from another transceiver, wherein the information is used to determine a maximum

amount of shared memory that can be allocated (i.e., the ADSL transceiver provides

data to (and receives data from) several channels with the data grouped into frames

that include both payload data bytes and overhead data bytes, wherein overhead data

bytes may contain information that is used to determine a maximum amount of shared

memory that can be allocated, lines 20-25 in column 2).

     With respect to claim 18, Fadavi-Ardekani further teaches further comprising a

shared processing module designed to provide processing resources to a plurality of

coding and/or decoding modules (i.e., the FCI supports multiple ADSL sessions and

performs various tasks on payload data including framing/de-framing, cyclic redundancy

check generation/checking, scrambling/descrambling, Reed-Solomon

encoding/decoding, and interleaving/de-interleaving, lines 11-17 in column 6).

     With respect to claim 19, Fadavi-Ardekani teaches a system for sharing

resources in a transceiver (i.e., the IDIM of the transceiver can support different number

of sessions; lines 3-5 in column 7) comprising: means for allocating a first portion of

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shared memory to a first latency path (i.e., 16 Kbytes is allocated for interleave, lines

25-30 in column 7) and means for allocating a second portion of the shared memory to

a second latency path (i.e., 4 Kbytes is allocated for deinterleave, lines 25-30 in column

7).

  With respect to claim 20, Fadavi-Ardekani further teaches wherein the first

latency path includes an interleaver and the second latency path includes an interleaver

(i.e., the size of the IDIM and the interleave depth may be modified to allocate multiple

portions, wherein each portion or session may be used for interleave or deinterleave.

For example, a new interleave session may be added to an existing interleave session;

lines 3-5 and 30-33 in column 7).

  With respect to claim 21, Fadavi-Ardekani further teaches wherein the first

latency path includes an interleaver and the second latency path includes a

deinterleaver (i.e., the size of the IDIM and the interleave depth may be modified to

allocate multiple portions, wherein each portion or session may be used for interleave or

deinterleave; lines 3-5 and 30-33 in column 7).

  With respect to claim 22, Fadavi-Ardekani further teaches wherein the first

latency path includes a deinterleaver and the second latency path includes a

deinterleaver (i.e., the size of the IDIM and the interleave depth may be modified to

allocate multiple portions, wherein each portion or session may be used for interleave or

deinterleave. For example, a new deinterleave session may be added to an existing

deinterleave session; lines 3-5 and 30-33 in column 7).

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With respect to claim 23, Fadavi-Ardekani further teaches means for transmitting

to another transceiver information that is used to determine a maximum amount of

shared memory that can be allocated (i.e., the ADSL transceiver provides data to (and

receives data from) several channels with the data grouped into frames that include

both payload data bytes and overhead data bytes, wherein overhead data bytes may

contain information that is used to determine a maximum amount of shared memory

that can be allocated, lines 20-25 in column 2).

With respect to claim 24, Fadavi-Ardekani further teaches means for receiving

from another transceiver information that is used to determine a maximum amount of

shared memory that can be allocated (i.e., the ADSL transceiver provides data to (and

receives data from) several channels with the data grouped into frames that include

both payload data bytes and overhead data bytes, wherein overhead data bytes may

contain information that is used to determine a maximum amount of shared memory

that can be allocated, lines 20-25 in column 2).

With respect to claim 25, Fadavi-Ardekani further teaches means for allocating a

shared processing module to a plurality of coding and/or decoding modules (i.e., the

FCI supports multiple ADSL sessions and performs various tasks on payload data

including framing/de-framing, cyclic redundancy check generation/checking,

scrambling/descrambling, Reed-Solomon encoding/decoding, and interleaving/de-

interleaving, lines 11-17 in column 6).

With respect to claim 26, Fadavi-Ardekani further teaches wherein the allocating

of at least one portion of the shared memory is based on one or more communication

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parameters (i.e., the number of sessions supported is based on the size of the IDIM and

the interleave depth, lines 3-5 and 30-33 in column 7).

      With respect to claim 27, Fadavi-Ardekani further teaches wherein at least one of

the communication parameters is a data rate, a latency, an INP value or a bit error rate

(i.e., interleave depth, wherein the interleave depth is directly proportional to latency,

lines 3-5 in column 7).

      With respect to claim 28, Fadavi-Ardekani teaches a protocol for sharing

resources in a transceiver (i.e., the IDIM of the transceiver can support different number

of sessions; lines 3-5 in column 7) comprising: allocating a first portion of shared

memory to a first latency path (i.e., 16 Kbytes is allocated for interleave, lines 25-30 in

column 7) and allocating a second portion of the shared memory to a second latency

path (i.e., 4 Kbytes is allocated for deinterleave, lines 25-30 in column 7).

      With respect to claim 29, Fadavi-Ardekani further teaches wherein the first

latency path includes an interleaver and the second latency path includes an interleaver

(i.e., the size of the IDIM and the interleave depth may be modified to allocate multiple

portions, wherein each portion or session may be used for interleave or deinterleave.

For example, a new interleave session may be added to an existing interleave session;

lines 3-5 and 30-33 in column 7).

      With respect to claim 30, Fadavi-Ardekani further teaches wherein the first

latency path includes an interleaver and the second latency path includes a

deinterleaver (i.e., the size of the IDIM and the interleave depth may be modified to

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allocate multiple portions, wherein each portion or session may be used for interleave or

deinterleave; lines 3-5 and 30-33 in column 7).

With respect to claim 31, Fadavi-Ardekani further teaches wherein the first

latency path includes a deinterleaver and the second latency path includes a

deinterleaver (i.e., the size of the IDIM and the interleave depth may be modified to

allocate multiple portions, wherein each portion or session may be used for interleave or

deinterleave. For example, a new deinterleave session may be added to an existing

deinterleave session; lines 3-5 and 30-33 in column 7).

With respect to claim 32, Fadavi-Ardekani further teaches transmitting to another

transceiver information that is used to determine a maximum amount of shared memory

that can be allocated (i.e., the ADSL transceiver provides data to (and receives data

from) several channels with the data grouped into frames that include both payload data

bytes and overhead data bytes, wherein overhead data bytes may contain information

that is used to determine a maximum amount of shared memory that can be allocated,

lines 20-25 in column 2).

With respect to claim 33, Fadavi-Ardekani further teaches receiving from another

transceiver information that is used to determine a maximum amount of shared memory

that can be allocated (i.e., the ADSL transceiver provides data to (and receives data

from) several channels with the data grouped into frames that include both payload data

bytes and overhead data bytes, wherein overhead data bytes may contain information

that is used to determine a maximum amount of shared memory that can be allocated,

lines 20-25 in column 2).

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With respect to claim 34, Fadavi-Ardekani further teaches allocating a shared

processing module to a plurality of coding and/or decoding modules (i.e., the FCI

supports multiple ADSL sessions and performs various tasks on payload data including

framing/de-framing, cyclic redundancy check generation/checking,

scrambling/descrambling, Reed-Solomon encoding/decoding, and interleaving/de-

interleaving, lines 11-17 in column 6).

With respect to claim 35, Fadavi-Ardekani further teaches wherein the allocating

of at least one portion of the shared memory is based on one or more communication

parameters (i.e., the number of sessions supported is based on the size of the IDIM and

the interleave depth, lines 3-5 and 30-33 in column 7).

With respect to claim 36, Fadavi-Ardekani further teaches wherein at least one of

the communication parameters is a data rate, a latency, an INP value or a bit error rate

(i.e., interleave depth, wherein the interleave depth is directly proportional to latency,

lines 3-5 in column 7).

With respect to claim 37, Fadavi-Ardekani teaches sharing of resources in a

transceiver (i.e., the IDIM of the transceiver can support different number of sessions;

lines 3-5 in column 7) comprising: information that allocates a first portion of shared

memory to a first latency path (i.e., 16 Kbytes is allocated for interleave, lines 25-30 in

column 7) and information that allocates a second portion of the shared memory to a

second latency path (i.e., 4 Kbytes is allocated for deinterleave, lines 25-30 in column

7).

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With respect to claim 38, Fadavi-Ardekani further teaches wherein the first latency path includes an interleaver and the second latency path includes an interleaver (i.e., the size of the IDIM and the interleave depth may be modified to allocate multiple portions, wherein each portion or session may be used for interleave or deinterleave. For example, a new interleave session may be added to an existing interleave session; lines 3-5 and 30-33 in column 7).

With respect to claim 39, Fadavi-Ardekani further teaches wherein the first latency path includes an interleaver and the second latency path includes a deinterleaver (i.e., the size of the IDIM and the interleave depth may be modified to allocate multiple portions, wherein each portion or session may be used for interleave or deinterleave; lines 3-5 and 30-33 in column 7).

With respect to claim 40, Fadavi-Ardekani further teaches wherein the first latency path includes a deinterleaver and the second latency path includes a deinterleaver (i.e., the size of the IDIM and the interleave depth may be modified to allocate multiple portions, wherein each portion or session may be used for interleave or deinterleave. For example, a new deinterleave session may be added to an existing deinterleave session; lines 3-5 and 30-33 in column 7).

With respect to claim 41, Fadavi-Ardekani further teaches further comprising information that transmits to another transceiver information that is used to determine a maximum amount of shared memory that can be allocated (i.e., the ADSL transceiver provides data to (and receives data from) several channels with the data grouped into frames that include both payload data bytes and overhead data bytes, wherein

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overhead data bytes may contain information that is used to determine a maximum

amount of shared memory that can be allocated, lines 20-25 in column 2).

With respect to claim 42, Fadavi-Ardekani further teaches further comprising

information that receives from another transceiver information that is used to determine

a maximum amount of shared memory that can be allocated (i.e., the ADSL transceiver

provides data to (and receives data from) several channels with the data grouped into

frames that include both payload data bytes and overhead data bytes, wherein

overhead data bytes may contain information that is used to determine a maximum

amount of shared memory that can be allocated, lines 20-25 in column 2).

With respect to claim 43, Fadavi-Ardekani further teaches further comprising

information that allocates a shared processing module to a plurality of coding and/or

decoding modules (i.e., the FCI supports multiple ADSL sessions and performs various

tasks on payload data including framing/de-framing, cyclic redundancy check

generation/checking, scrambling/descrambling, Reed-Solomon encoding/decoding, and

interleaving/de-interleaving, lines 11-17 in column 6).

With respect to claim 44, Fadavi-Ardekani further teaches wherein the allocating

of at least one portion of the shared memory is based on one or more communication

parameters (i.e., the number of sessions supported is based on the size of the IDIM and

the interleave depth, lines 3-5 and 30-33 in column 7).

With respect to claim 45, Fadavi-Ardekani further teaches wherein at least one of

the communication parameters is a data rate, a latency, an INP value or a bit error rate

(i.e., interleave depth, wherein the interleave depth is directly proportional to latency,

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lines 3-5 in column 7).

Conclusion

8.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MARK PFIZENMAYER whose telephone number is

(571)270-7214. The examiner can normally be reached on Monday - Friday 8:00 - 5:30

EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, James Hwang can be reached on (571)272-4036. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mark Pfizenmayer
Patent Examiner
1 December 2009

/Joon H. Hwang/
Supervisory Patent Examiner, Art Unit 2447

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/246,163	10/11/2005	Marcos C. Tzannes	5550-54	5478

62574 7590 12/16/2009 Jason H. Vick Sheridan Ross, PC Suite # 1200 1560 Broadway Denver, CO 80202	EXAMINER
	PFIZENMAYER, MARK C

ART UNIT	PAPER NUMBER
2447	

NOTIFICATION DATE	DELIVERY MODE
12/16/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jvick@sheridanross.com

PTOL-90A (Rev. 04/07)

Interview Summary	Application No.	Applicant(s)
	11/246,163	TZANNES ET AL.
	Examiner	Art Unit
	BENJAMIN R. BRUCKART	2446

All participants (applicant, applicant's representative, PTO personnel):

(1) *BENJAMIN R. BRUCKART*.

(3)*Jason H Vick, Reg. No. 45, 285*.

(2) *Pfizenmayer, Mark*.

(4)*Inventor Marcos Tzannes*.

Date of Interview: *08 December 2009*.

Type: a)☐ Telephonic   b)☐ Video Conference
c)☒ Personal [copy given to: 1)☒ applicant   2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes   e)☐ No.
If Yes, brief description: _____.

Claim(s) discussed: *1*.

Identification of prior art discussed: *N/A*.

Agreement with respect to the claims f)☐ was reached. g)☒ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *See Continuation Sheet*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Benjamin R Bruckart/
Primary Examiner, Art Unit 2446

U.S. Patent and Trademark Office
PTOL-413 (Rev. 04-03)   Interview Summary   Paper No. 20091208

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

———

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

 Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: The examiner and applicant discussed an overview of the invention and explained features of simultaneous transfer and types of interleaving and allocation of memory based on direction of transmission and bandwidth. The examiner felt the proposed amendment was a step in the right direction but that more details would be recommended to overcome the cited prior art. The examiner suggested the features of need more detailing such as type of memory, type of interleaving to distinguish from the prior art or memory art. .

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of: Tzannes et al.	) Group Art Unit: 2447
	)
Application No.: 11/246,163	) Examiner: Pfizenmayer, M.
	)
Filed: October 11, 2005	) Confirmation No.: 5478
	)
Atty. File No.: 5550-54	)
	)

For: RESOURCE SHARING IN A TELECOMMUNICATIONS ENVIRONMENT

SUPPLEMENTAL AMENDMENT AND RESPONSE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants submit this Amendment and Response supplemental to the Amendment and Response and RCE filed December 17, 2009. Please credit any overpayment or charge any underpayment to Deposit Account No. 19-1970.

Please amend the above-identified patent application as follows:

Amendments to the Claims are shown in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 5 of this paper.

Attorney Docket No.: 5550-54

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 45. (Cancelled)

46.   (Currently Amended) A method of allocating shared memory in a transceiver comprising:

transmitting or receiving, by the transceiver, a message during initialization indicating a maximum number of bytes of memory that can be allocated to an interleaver;

allocating, in the transceiver, a first number of bytes of a shared memory to the interleaver to interleave a first plurality of Reed Solomon (RS) coded data bytes for transmission at a first data rate; and

allocating, in the transceiver, a second number of bytes of the shared memory to a deinterleaver to deinterleave a second plurality of RS coded data bytes received at a second data rate,

wherein the allocated memory for the interleaver does not exceed the maximum number of bytes indicated in the message, and

wherein the shared memory is used to simultaneously interleave the first plurality of RS coded data bytes and deinterleave the second plurality of RS coded data bytes.

47.   (Previously Presented) The method of claim 46, wherein the allocating is based on an impulse noise protection requirement.

Attorney Docket No.: 5550-54

48.   (Previously Presented) The method of claim 46, wherein the allocating is based on a latency requirement.

49.   (Previously Presented) The method of claim 46, wherein the allocating is based on a bit error rate requirement.

50.   (Currently Amended) A method of allocating shared memory in a transceiver comprising:

transmitting or receiving, by the transceiver, a message during initialization indicating a maximum number of bytes of memory that can be allocated to a deinterleaver;

allocating, in the transceiver, a first number of bytes of a shared memory to an interleaver to interleave a first plurality of Reed Solomon (RS) coded data bytes for transmission at a first data rate; and

allocating, in the transceiver, a second number of bytes of the shared memory to the deinterleaver to deinterleave a second plurality of RS coded data bytes received at a second data rate,

wherein the allocated memory for the deinterleaver does not exceed the maximum number of bytes indicated in the message, and

wherein the shared memory is used to simultaneously interleave the first plurality of RS coded data bytes and deinterleave the second plurality of RS coded data bytes.

51.   (Previously Presented) The method of claim 50, wherein the allocating is based on an impulse noise protection requirement.

3   Attorney Docket No.: 5550-54

52.   (Previously Presented) The method of claim 50, wherein the allocating is based on a latency requirement.

53.   (Previously Presented) The method of claim 50, wherein the allocating is based on a bit error rate requirement.

Attorney Docket No.: 5550-54

REMARKS

Applicants respectfully request reconsideration of this application as amended.

By this amendment, claims 46 and 50 have been amended to correct a typographical error. The combination of features in all the above claims is neither taught nor suggested by the cited reference.

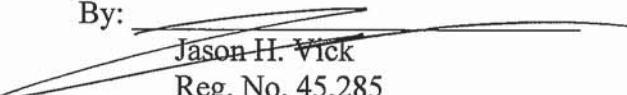A Notice of Allowance is earnestly solicited.

The Commissioner is hereby authorized to charge to deposit account number 19-1970 any fees under 37 CFR § 1.16 and 1.17 that may be required by this paper and to credit any overpayment to that Account. If any extension of time is required in connection with the filing of this paper and has not been separately requested, such extension is hereby petitioned.

Respectfully submitted,

SHERIDAN ROSS P.C.

Date: _8 Mar '10_

By: _____

Jason H. Vick
Reg. No. 45,285
1560 Broadway, Suite 1200
Denver, Colorado 80202
Telephone: 303-863-9700

5   Attorney Docket No.: 5550-54

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NOTICE OF ALLOWANCE AND FEE(S) DUE

62574	7590	09/07/2010	

Jason H. Vick
Sheridan Ross, PC
Suite # 1200
1560 Broadway
Denver, CO 80202

EXAMINER
PFIZENMAYER, MARK C

ART UNIT	PAPER NUMBER
2447	

DATE MAILED: 09/07/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/246,163	10/11/2005	Marcos C. Tzannes	5550-54	5478

TITLE OF INVENTION: RESOURCE SHARING IN A TELECOMMUNICATIONS ENVIRONMENT

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	12/07/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

Page 1 of 3

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail**

Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

62574   7590   09/07/2010

Jason H. Vick
Sheridan Ross, PC
Suite # 1200
1560 Broadway
Denver, CO 80202

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)

_____ (Signature)

_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/246,163	10/11/2005	Marcos C. Tzannes	5550-54	5478

TITLE OF INVENTION: RESOURCE SHARING IN A TELECOMMUNICATIONS ENVIRONMENT

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	12/07/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
PFIZENMAYER, MARK C	2447	714-774000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE   (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) :   ☐ Individual   ☐ Corporation or other private group entity   ☐ Government

4a. The following fee(s) are submitted:

☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.   ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____   Date _____

Typed or printed name _____   Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.   OMB 0651-0033   U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

UNITED STATES PATENT AND TRADEMARK OFFICE

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PFIZENMAYER, MARK C

ART UNIT	PAPER NUMBER
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DATE MAILED: 09/07/2010

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 828 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 828 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

Notice of Allowability	Application No.	Applicant(s)
	11/246,163	TZANNES ET AL.
	Examiner	Art Unit	
	MARK PFIZENMAYER	2447	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *a telephone communications with Jason Vick (Reg. No. 45,285) on August 2 and 3, 2010*.

2. ☒ The allowed claim(s) is/are *46-53 (renumbered as claims 1-8)*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:
        1. ☐ Certified copies of the priority documents have been received.
        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .
    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
        Paper No./Mail Date _____ .
    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)
1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date *12/22/09 and 8/9/10*
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____ .

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Art Unit: 2447

DETAILED ACTION

1.   The applicant cancelled claims 1-45, and added claims 46-29 in the amendment filed on

12/17/2009. The applicant amended claim 46 and added claims 50-53 in the supplemental

amendment filed on 12/30/2009. The applicant amended claims 46 and 50 in the supplemental

amendment filed on 3/8/2010. Claims 46-53 are pending.

EXAMINER'S AMENDMENT

2.   An examiner's amendment to the record appears below. Should the changes and/or

additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR

1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the

payment of the issue fee.

3.   Authorization for this examiner's amendment was given in a telephone interviews with

Jason Vick (Reg. No. 45,285) on August 2 and 3, 2010.

4.   The application has been amended as follows:

- Replace claim 46 with:

        46. A method of allocating shared memory in a transceiver comprising:

        transmitting or receiving, by the transceiver, a message during initialization specifying a

maximum number of bytes of memory that are available to be allocated to an interleaver;

        determining, at the transceiver, an amount of memory required by the interleaver to

interleave a first plurality of Reed Solomon (RS) coded data bytes within a shared memory;

        allocating, in the transceiver, a first number of bytes of the shared memory to the

interleaver to interleave the first plurality of Reed Solomon (RS) coded data bytes for

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transmission at a first data rate, wherein the allocated memory for the interleaver does not exceed

the maximum number of bytes specified in the message;

allocating, in the transceiver, a second number of bytes of the shared memory to a

deinterleaver to deinterleave a second plurality of RS coded data bytes received at a second data

rate; and

interleaving the first plurality of RS coded data bytes within the shared memory allocated

to the interleaver and deinterleaving the second plurality of RS coded data bytes within the

shared memory allocated to the deinterleaver, wherein the shared memory allocated to the

interleaver is used at the same time as the shared memory allocated to the deinterleaver.

- Replace claim 47 with:

47. The method of claim 46, wherein the determining is based on an impulse noise

protection requirement.

- Replace claim 48 with:

48. The method of claim 46, wherein the determining is based on a latency requirement.

- Replace claim 49 with:

49. The method of claim 46, wherein the determining is based on a bit error rate

requirement.

- Replace claim 50 with:

50. A method of allocating shared memory in a transceiver comprising:

transmitting or receiving, by the transceiver, a message during initialization specifying a

maximum number of bytes of memory that are available to be allocated to a deinterleaver;

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determining, at the transceiver, an amount of memory required by the deinterleaver to

deinterleave a first plurality of Reed Solomon (RS) coded data bytes within a shared memory;

allocating, in the transceiver, a first number of bytes of the shared memory to the

deinterleaver to deinterleave a first plurality of Reed Solomon (RS) coded data bytes for

transmission at a first data rate, wherein the allocated memory for the deinterleaver does not

exceed the maximum number of bytes specified in the message;

allocating, in the transceiver, a second number of bytes of the shared memory to an

interleaver to interleave a second plurality of RS coded data bytes received at a second data rate;

and

deinterleaving the first plurality of RS coded data bytes within the shared memory

allocated to the deinterleaver and interleaving the second plurality of RS coded data bytes within

the shred memory allocated to the interleaver, wherein the shared memory allocated to the

deinterleaver is used at the same time as the shared memory allocated to the interleaver.

- Replace claim 51 with:

51. The method of claim 50, wherein the determining is based on an impulse noise

protection requirement.

- Replace claim 52 with:

52. The method of claim 50, wherein the determining is based on a latency requirement.

- Replace claim 53 with:

53. The method of claim 50, wherein the determining is based on a bit error rate

requirement.

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Allowable Subject Matter

5.   Claims 46-53 are allowed.

Claim 46 identifies the distinct features of specifying a maximum number of bytes available to be allocated to an interleaver in a transmitted or received message, determining the amount of memory required by the interleaver, and then allocating the bytes of a shared memory to the interleaver wherein the bytes allocated do not exceed the maximum number of available bytes specified in the message.

The closest prior art, Fadavi-Ardekani et al (U.S. Pat. No. 6,707,822) discloses sharing a memory between the interleavers and deinterleavers of multiple ADSL sessions, fails to suggest limiting the memory allocated to the interleaver to a maximum number of bytes available that was specified in a transmitted or received message. The above features in conjunction with all other limitations of the dependent and independent claims 46-49 are hereby allowed.

Claim 50 identifies the distinct features of specifying a maximum number of bytes available to be allocated to a deinterleaver in a transmitted or received message, determining the amount of memory required by the deinterleaver, and then allocating the bytes of a shared memory to the deinterleaver wherein the bytes allocated do not exceed the maximum number of available bytes specified in the message.

The closest prior art, Fadavi-Ardekani et al (U.S. Pat. No. 6,707,822) discloses sharing a memory between the interleavers and deinterleavers of multiple ADSL sessions, fails to suggest limiting the memory allocated to the deinterleaver to a maximum number of bytes available that was specified in a transmitted or received message. The above features in conjunction with all other limitations of the dependent and independent claims 50-53 are hereby allowed.

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Conclusion

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MARK PFIZENMAYER whose telephone number is (571)270-

7214. The examiner can normally be reached on Monday - Friday 8:00 - 5:30 EST.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, James Hwang can be reached on (571)272-4036. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mark Pfizenmayer
Patent Examiner
3 August 2010

/Joon H. Hwang/
Supervisory Patent Examiner, Art Unit 2447